



# Mogaya Contractors

Civil & structural engineering contractors



# TANKS

## Introduction

MCL tanks is a relatively new product in the market which covers both old and new designs for steel pressed water storage tanks.

The brand looks at economy of material and efficiency in terms of ventilation, adequate water holding capacity, correct nozzle positioning (water outlet, inlet and washer outlet), and access into the tank and sterilization/maintenance mechanism. MCL Tanks therefore majors in two aspects which are economy and sustainable efficiency.

## Quality And Compliance

Mogaya Contractors Ltd ensures quality control through the rigorous application of quality working standards and modern standards as approved by KEBS.

## Services Offered

MCL Tanks offers the full design, fabrication, protective treatment and transport and erection services for tanks, towers and ancillary items.

Prior to construction, quality engineers are provided to conduct survey and feasibility studies, after which reports are prepared. They are also available for supervision or full management of the sites, with regard to the clients wish.

## The Concept

MCL tanks are formed using mass produced tank panels and prefabricated cleats and stays bolted together on site to give a wide range of sizes and capacities, in accordance to the British and KEBS standards.

The MCL tanks are provided in rectangular shape with notches to avoid obstructions.

MCL tanks are designed to rest on elevated steel towers, dwarf walls or concrete pillars. The bolted and modular concept of construction allows high speed assembly and utilization of semi-skilled labour

Refurbishment of MCL tanks can be done without disruption of water supply and alterations can be made if requested at the concept stage with minimal down time.

Although known for storage of potable water, MCL Tanks can be used to store other fluids such as oil as well granular and flake solids.

## Features And Benefits

Modular bolted construction provides

- Infinite range of sizes and configurations
- Excellent flexibility to adapt as storage requirements change.
- Ability to be installed in areas with restricted access.
- Quick and simple assembly using hand tools.
- High economical transportation.

All steel construction provides:

- Inherent strength and durability of the raw material
- High resistance to damage during transit and assembly.
- Excellent substrate for a wide range of protective finishes.
- Long term life expectancy.



## Tank Components

### Tank plates

The standard tank plates are 1000mm, 1100mm, 1200mm square from mild steel. The plate thickness ranges from 4mm-6mm depending on the tank depth and the usage of the tank. On-standard plates can be fabricated with regard to the clients wish.

### Covers

Covers are provide for either interior or exterior conditions and are designed to withstand superimposed loadings in accordance with the requirements of BS449 and imposed loads by maintenance personnel. Suitable jointing materials ensure covers are dust or weather-proofed to suit their application.

### Divisions

To enable maintenance of the tank without interruption of the water supply. The divisions are designed with standard tank plates and it is advisable that tanks storing over 5000L to be fitted with divisions.

### Float valve chambers

They are provided to prevent back siphonage.

## Cleats and stays

All internal fittings are fabricated from steel and designed to ensure the strength and rigidity of each size. Where special applications make use of internal staying impossible, angle and channel stiffeners can be provided externally.

## Bolts, nuts and Washers

The bolts in construction comply with the requirements of BS1654. For export jobs; spare bolts, nuts and washers are provided. Jointing materials. Simple strip jointing materials are used between flanges of tank plates, under the tank cleats and for sealing the cover plates.

## Protective treatment

MCL Tanks offers two standard shop finishes.

Hot dipped galvanizing to BS EN ISO 1461:1999

Non-standard finishes can be provided on receipt of specific requirements including sprayed zinc or aluminium, G.R.P and hot applied bituminous enamel.

## Standard Fittings

Tanks fitted with covers feature the following fittings as standard:

Diameter access man way with hinged lid.

Screened cowl ventilator

Internal access ladder for tanks deeper than 1000mm, 1100mm, 1220mm.

## Optional Fittings

External ladders and hand rails to BS4211

Float valve chambers

Contents gauges

Sumps

Access man ways to suit a variety of different applications.

Anti-vermin screens for over flow and warning pipes to comply with water bye law 30.

Spill over weir boxes to provide type A air gaps, in accordance with BS 6281: Part 1



## Pipe Connections

Three basic types of pipe connection are on MCL Tanks.

Tap sockets for screwed pipe work up to 100mm bore.

Pads with studs for pipe work flanged to BS4504

MCL tapped flanges for screwed pipework.

## Pipework And Valves

Pipework is always considered at planning stage so that they can be ordered with the tank, to ensure they are available in good time and suitable for the tank concerned.

These components include: the rising main, control of flow, outlet services, overflows, washout, pipework, valves etc

Close grouping of pipe work and valves is recommended for tanks divided into two compartments so that a single control point can serve them both. It is advisable not to have pipes passing through cover plates.

## Tank Configurations

### Externally Flanged Tanks (1)

Wherever possible externally tanks should be utilized because the assembly bolts in the tank sides and base are external for ease of assembly, maintenance and inspection.

The majority of the tanks contents can be drained by using a wash out connection in the base of the tank.

Externally flanged construction requires at least 500mm clearance around and underneath the tank for assembly and maintenance.

700mm clearance above the cover for access into the tank.

### Internally Flanged Base Tank (2)

Where head within a building is restricted, MCL offer the option of a tank with externally flanged sides and an internally flanged base.

Provide a clearance 500mm around the tank for assembly and maintenance.

700mm above the cover for access into the tank.

### Totally Internally Flanged Tanks (3)

Tanks which are totally internally flanged can be used where it is essential to make full use of a confined site.

## What steel products do you fabricate?

Tanks, towers, go downs, mezzanines, canopies, bridges, transmission towers, gantries, portal frames and any other steel related works.

## What are your steel fabrication specialties?

Steel tanks and Towers

## Are there national standards used in welding and fabrication?

Yes. We use the british standards, BS 5950 and the CP3

## Do you apply protective coatings to your steel fabricated products?

Yes. All the steel is painted with protective coating depending on usability. For example steel water tanks are painted using bitumen on the inside and aluminium oxide on the outside. Galvanizing can also be done upon request by clients.

## Are you capable of fabricating your products with various types of steel and metal?

Yes, as long as the specified material is available in the market.

## Do you comply with safety requirements?

Yes, the necessary safety gears are provide on-site and trainings are offered before commencement of projects.

## Do you fabricate and install overhead cranes?

Yes.

## Do you comply with quality requirements?

Yes. The necessary BS codes are used during design.

Our sources of steel are also legit and known all over the country.

## **Will you do the structural cladding if not awarded the steel fabrication?**

Yes, however depending on the size of the project.

## **Do you do civil works?**

Yes, all steel erection that requires civil works is supplied with the same.

## **What associations are you currently members of?**

NCA, EBK, IEK, ICE and BNI

## **Do you provide transport?**

Yes transport is covered in the quotations provided.

## **Do you supply cement, sand and cement?**

No. However relevant contacts can be shared when need arises.

## **Do you paint work?**

All the steel fabricated in the workshop is painted. Making good painting is also provided for after erection.

## **Do you do flooring, palisades and gates?**

Yes in composites of both steel and concrete.

## **Will you design a steel structure for another firm to fabricate?**

No, our design service is based on us being able to do the fabrication.

## Tank Support

Dwarf walls in brick or concrete form the most economical supports.

For tanks exceeding 2440mm I height a galvanized mild steel capping flat should be provided between the top of the wall and the base of the tank.

An alternative method of support is universal beams positioned on top of cross walls.

In other cases the tanks can be supported on steel towers.



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